

REMARKS/ARGUMENTS

In response to the Office Action dated June 15, 2004, Claims 1-31 now remain in this application. Claims 1, 13 and 25 have been amended. Claim 31 has been added.

Claims 1-6, 15, 22, and 23 were rejected under 35 USC 102(a).

Claims 8, 9, 13, 14, 17-19, and 25-27 were rejected under 35 USC 103(a).

Claims 7, 10-12, 14, 16, and 28-30 were objected to.

Claim Rejections - 35 USC § 102

Claims 1-6, 15, 22, and 23 are rejected under 35 USC 102(a) as being anticipated by Masuda et al. (U.S. Pat. No. 6,245,190 B1). Confirmation of this patent number is requested.

Claim 1 has been amended to recite that a fixed impedance match element is coupled to the RF power generator and the overhead electrode. Dependent Claim 31 has been introduced and recites that the frequency of the RF power generator satisfies the conditions for capacitive coupling of plasma source power.

Claim 1 is distinguished from Masuda because Masuda does not disclose a fixed impedance match element, and instead discloses a variable (conventional) impedance match circuit. Claim 1 was amended to add the limitation of a fixed impedance match element. The applicants' reactor has a very wide impedance match space using a fixed match element.

The other claims named in this rejection, Claims 2-6, 15, 22, and 23 depend directly or indirectly from Claim 1 and are therefore patentable upon the same basis.

New Claim 31 is distinguished from Masuda because Claim 31 includes the limitation that the frequency of the VHF power generator satisfies the conditions for capacitive coupling. Masuda cannot meet this limitation because Masuda's frequency satisfies the conditions for electron cyclotron resonance. Electron cyclotron resonance is a different mode for coupling source power to the plasma than capacitive coupling. Thus, Masuda cannot meet the limitations of Claim 11.

Masuda does not disclose the use of a VHF source power frequency in a capacitively coupled reactor with a fixed impedance match element.

It is submitted that the claims are not anticipated by Masuda based upon the foregoing. Therefore, withdrawal of the rejection of Claims 1-6, 15, 22, and 23 under 35 USC 102 is respectfully requested.

Claim Rejections - 35 USC § 103

Claims 8, 9, 13, 14, 17-19, and 25-27 are rejected under 35 USC 103(a) as being unpatentable over Masuda et al.

Applicants respectfully traverse this rejection because the references cited do not suggest the elements mentioned in the rejection (i.e., "...anodized aluminum and silicon containing materials for the electrode coatings, capacitive levels in the insulating materials for protection, and window features in the electrode.") should be employed to solve the problems which are solved by the claimed combinations. Therefore, these claims are unobvious. Moreover, these claims depend, directly or indirectly, from Claim 1 and are therefore patentable upon the same basis as Claim 1, discussed above. Specifically, use of a

fixed impedance match element in the claimed combination has greatly expanded the tuning space of the reactor. A fixed impedance match element is not taught by Masuda.

Therefore, reconsideration of the rejection of Claims 8, 9, 13, 14, 17-19, and 25-27 under 35 USC 103 is respectfully requested.

Claim Objections

Claims 7, 10-12, 14, 16, and 28-30 are objected to as being dependent upon a rejected base claims, but would be allowable if rewritten in independent form. However, the base claims are now allowable, and therefore this objection is overcome.

SUMMARY

In view of the foregoing corrections and remarks, it is felt that the objection to the claims and the rejection of the claims under 35 USC 102(a) and 35 USC 103(a) have been overcome. Therefore, withdrawal of these rejections is respectfully requested and allowance of the application is earnestly solicited.

If, However, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, the Examiner should telephone Robert Wallace at (805) 644-4035 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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